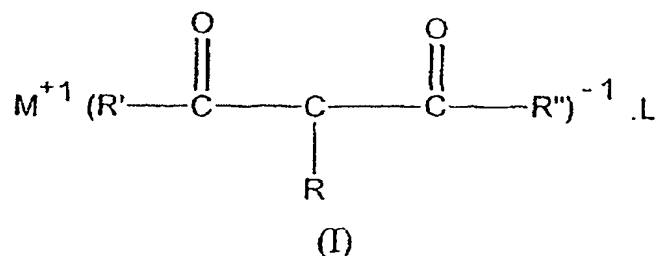


## CLAIMS

1. A compound, characterized in that it corresponds to formula (I) below:



5

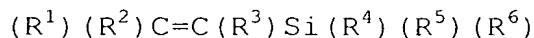
in which

- M represents a copper atom or silver atom;
- R' and R'', which may be identical or different, represent a group chosen from: a C<sub>1</sub>-C<sub>8</sub> alkyl;
- 10 an -OR''' group, in which R''' represents a C<sub>1</sub>-C<sub>8</sub> alkyl;
- R represents a group chosen from: an -OR'''' group, in which R'''' represents a C<sub>1</sub>-C<sub>8</sub> alkyl; a nitro group: NO<sub>2</sub>; an aldehyde function: -CHO; a -COOR'''' ester function, in which R'''' represents a C<sub>1</sub>-C<sub>8</sub> alkyl group;
- 15 - L represents a stabilizing ligand.

2. A compound according to formula (I), characterized in that L is chosen from:

- a- carbon monoxide,
  - b- unsaturated hydrocarbon-based ligands
  - 20 containing at least one nonaromatic unsaturation,
  - c- isonitriles,
  - d- phosphines,
  - e- the compounds corresponding to formula (II)
- below:

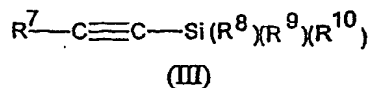
25



in which

- R<sup>1</sup> represents the hydrogen atom or a C<sub>1</sub>-C<sub>8</sub> alkyl group or an SiR<sup>4</sup>R<sup>5</sup>R<sup>6</sup> group,
- R<sup>2</sup> and R<sup>3</sup>, which may be identical or
- 30 different, represent the hydrogen atom or a C<sub>1</sub>-C<sub>8</sub> alkyl group,
- R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup>, which may be identical or different, represent a phenyl or C<sub>1</sub>-C<sub>8</sub> alkyl group;

f- the compounds corresponding to formula (III) below:

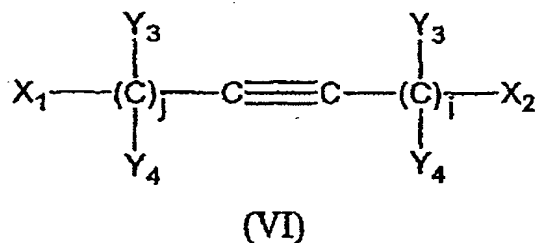
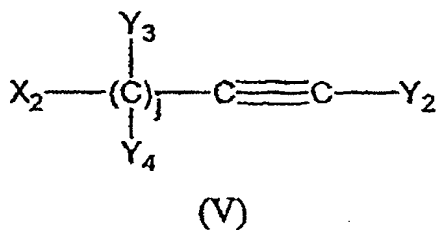
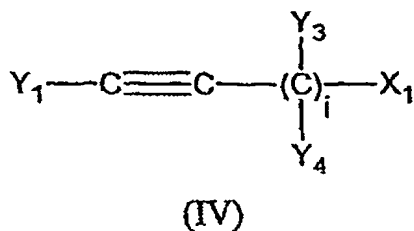


in which

5           - R<sup>7</sup> represents a C<sub>1</sub>-C<sub>8</sub> alkyl, phenyl or Si(R<sup>8</sup>)(R<sup>9</sup>)(R<sup>10</sup>) group,

          - R<sup>8</sup>, R<sup>9</sup> and R<sup>10</sup>, which may be identical or different, represent a C<sub>1</sub>-C<sub>8</sub> alkyl or phenyl group,

g- the compounds corresponding to one of the  
10 formulae (IV), (V) and (VI) below:



in which Y<sub>1</sub>, Y<sub>2</sub>, Y<sub>3</sub> and Y<sub>4</sub>, which may be  
15 identical or different, are chosen from a hydrogen atom, a C<sub>1</sub>-C<sub>8</sub> alkyl and an -Si(R<sub>5</sub>)<sub>3</sub> group where R<sub>5</sub> is a C<sub>1</sub>-C<sub>8</sub> alkyl, i and j represent an integer chosen from 0, 1, 2 and 3, and X<sub>1</sub> and X<sub>2</sub>, which may be identical or different, represent an electron-withdrawing group,  
20 such as in particular a C<sub>1</sub>-C<sub>8</sub> alkenyl.

3. A compound as claimed in claim 1 or claim 2,

characterized in that M represents the copper atom.

4. A compound as claimed in any one of claims 1 to 3, characterized in that R' or R'' represents a group chosen from CH<sub>3</sub> and C<sub>2</sub>H<sub>5</sub>.

5 5. A compound as claimed in any one of claims 1 to 4, characterized in that R represents a group chosen from NO<sub>2</sub> and OCH<sub>3</sub>.

6. A compound as claimed in any one of claims 1 to 5, characterized in that L represents a ligand chosen  
10 from 1,5-cyclooctadiene and bis(trimethylsilyl)-acetylene.

7. A process for the gas-phase chemical deposition of a metal chosen from copper and silver, on a support, this process being characterized in that a compound as  
15 claimed in any one of claims 1 to 6 is used as a copper precursor or silver precursor.

8. The process as claimed in claim 7, characterized in that the support consists of a material chosen from Si, AsGa, InP, SiC and SiGe.

20 9. The process as claimed in either one of claims 7 and 8, characterized in that the support contains one or more intermediate layers consisting of at least one material chosen from TiN, TiSiN, Ta, TaN, TaSiN, WN and WSiN.

25 10. The process as claimed in any one of claims 7 to 9, characterized in that it is carried out at a temperature ranging from 120 to 300°C.

11. The process as claimed in any one of claims 7 to 10, characterized in that the copper precursor or silver  
30 precursor is used pure.

12. The process as claimed in any one of claims 7 to 10, characterized in that the copper precursor or silver precursor is used in solution in a solvent.

13. The use of a process as claimed in any one of  
35 claims 7 to 12, for depositing a layer of copper or of silver having a thickness ranging from 0.2 to 500 nm.

14. The use of a process as claimed in any one of claims 7 to 12, for producing an integrated circuit.